

Amendments to the Claims

This listing of the claims will replace all prior versions, and listings, of claims in this application.

Listing of Claims

Claim 1 (Currently amended) An isolated nucleic acid molecule comprising the nucleotide sequence of SEQ ID NO:1, ~~SEQ ID NO:3, SEQ ID NO:7, SEQ ID NO:9, SEQ ID NO:11, SEQ ID NO:13, SEQ ID NO:15, SEQ ID NO:17, SEQ ID NO:21, or SEQ ID NO:23~~, or a complement thereof.

Claim 2 (canceled)

Claim 3 (canceled)

Claim 4 (Currently amended) An isolated nucleic acid molecule which encodes a polypeptide comprising the amino acid sequence of SEQ ID NO:2, ~~SEQ ID NO:4, SEQ ID NO:8, SEQ ID NO:10, SEQ ID NO:12, SEQ ID NO:14, SEQ ID NO:16, SEQ ID NO:18, SEQ ID NO:22, or SEQ ID NO:24~~.

Claim 5 (Currently amended) An isolated nucleic acid molecule which encodes a naturally occurring allelic variant of a polypeptide comprising the amino acid sequence of SEQ ID NO:2, ~~SEQ ID NO:4, SEQ ID NO:8, SEQ ID NO:10, SEQ ID NO:12, SEQ ID NO:14, SEQ ID NO:16, SEQ ID NO:18, SEQ ID NO:22, or SEQ ID NO:24~~, wherein the nucleic acid molecule hybridizes to ~~the~~ a complement of a nucleic acid molecule consisting of SEQ ID NO:1, ~~SEQ ID NO:3, SEQ ID NO:7, SEQ ID NO:9, SEQ ID NO:11, SEQ ID NO:13, SEQ ID NO:15, SEQ ID NO:17, SEQ ID NO:21, or SEQ ID NO:23~~ in 6X SSC at 45°C, followed by one or more washes in 0.2X SSC, 0.1% SDS at 50-65°C, and wherein said nucleic acid molecule encodes a polypeptide which is capable of functioning as a diaminopimelate epimerase.

Claim 6 (Currently amended) An isolated nucleic acid molecule comprising a nucleotide sequence which has at least ~~50~~90% identity with the nucleotide sequence of ~~SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:7, SEQ ID NO:9, SEQ ID NO:11, SEQ ID NO:13, SEQ ID NO:15, SEQ ID NO:17, SEQ ID NO:21, or SEQ ID NO:23, or the a~~ complement thereof, and wherein said nucleic acid molecule encodes a polypeptide which is capable of functioning as a diaminopimelate epimerase.

Claim 7 (Currently amended) An isolated nucleic acid molecule comprising a fragment of at least ~~15~~ 22 contiguous nucleotides of the nucleotide sequence of ~~SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:7, SEQ ID NO:9, SEQ ID NO:11, SEQ ID NO:13, SEQ ID NO:15, SEQ ID NO:17, SEQ ID NO:21, or SEQ ID NO:23, or the a~~ complement thereof.

Claim 8 (canceled)

Claim 9 (canceled)

Claim 10 (Original) A vector comprising the nucleic acid molecule of claim 1.

Claim 11 (Original) The vector of claim 10, which is an expression vector.

Claim 12 (Original) A host cell transfected with the expression vector of claim 11.

Claim 13 (Original) The host cell of claim 12, wherein said cell is a microorganism.

Claim 14 (Original) The host cell of claim 13, wherein said cell belongs to the genus *Corynebacterium* or *Brevibacterium*.

Claim 15 (Amended) The host cell of claim 12 or 43, wherein the expression of said nucleic acid molecule results in the modulation in production of a fine chemical from said cell.

Claim 16 (Original) The host cell of claim 15, wherein said fine chemical is selected from the group consisting of: organic acids, nonproteinogenic amino acids, purine and pyrimidine bases, nucleosides, nucleotides, lipids, saturated and unsaturated fatty acids, diols, carbohydrates, aromatic compounds, vitamins, cofactors, polyketides, and enzymes.

Claims 17-39 (Canceled)

Claim 40 (New) An isolated nucleic acid molecule consisting of the nucleotide sequence of SEQ ID NO:1, or a complement thereof.

Claim 41 (New) An isolated nucleic acid molecule which encodes a polypeptide consisting of the amino acid sequence set forth in SEQ ID NO:2, or a complement thereof.

Claim 42 (New) An isolated nucleic acid molecule consisting of a nucleotide sequence which is at least 90% identical to the nucleotide sequence of SEQ ID NO:1, or a complement thereof, wherein said nucleotide sequence encodes a polypeptide which is capable of functioning as a diaminopimelate epimerase.

Claim 43 (New) An isolated nucleic acid molecule comprising a nucleotide sequence which is at least 90% identical to the nucleotide sequence of SEQ ID NO:1, or a complement thereof, wherein said nucleotide sequence encodes a polypeptide which is capable of modulating production of a fine chemical.

Claim 44 (New) The host cell of claim 13, wherein said cell is a bacterial cell.